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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/806,775	07/09/2001	Markku Rajala	0386/00294	5959

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EXAMINER

HOFFMANN, JOHN M

ART UNIT	PAPER NUMBER
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1731

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/16/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

09/806,775

Applicant(s)

RAJALA ET AL.

Examiner

John Hoffmann

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 February 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 37-52 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 37-52 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 37, 38 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hawtof 6565823 in view of Takahashi 4388098.

See the prior Office action for the manner in which the combination of references meet the claims.

Claims 39-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hawtof 6565823 in view of Takahashi 4388098 as applied to claims 37-38 and further in view of Ainslie 4923279.

See the prior Office action for the manner in which the combination of references meet the claims.

Claims 37-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Randall 3883336 in view of Hawtof 6565823, Ainslie 4923279, and Takahashi 4388098.

See the prior Office actions for the manner in which the art is applied.

Claims 46-52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Randall 3883336 in view of Hawtof 6565823, Ainslie 4923279, Takahashi 4388098 and Finnish patent 98832.

See the prior Office action for the manner in which the combination of references meet the claims.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 37-51 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Examiner could find no support for the newly claimed limitation regarding “downstream” – either explicit or implicit. See also the arguments section below which discusses how the present invention appears actually be teaching away from the concept of atomizing downstream of the torch; the disclosure suggests the atomizing occurs within the torch.

Response to Arguments

Applicant's arguments filed 26 February 2007 have been fully considered but they are not persuasive.

The Remarks section refers to a new information disclosure statement. Examiner could find no such IDS in the recent response.

It is argued that the new "downstream" limitations have basis at page 3, lines 4-9 and page 4 lines 30-33 and figures 1-2. The figures show no atomizing nor any location therefrom. At best the figures suggest that the atomizing would occur right at the nozzle, not downstream therefrom. However, it is abundantly clear that the figures are not drawn to scale, thus one would not be able to surmise any relationship between the various features. The cited portions of the specification do not mention the "downstream" limitation or anything suggestive thereof. On the contrary, page 4, lines 32-33 states that the gas "atomizes the liquid flowing along the liquid tube" – the plain meaning of which is that the liquid which is actively flowing along the tube is atomized – NOT the liquid that is *downstream* of the tube/nozzle. Compare this to Ruppert US Patent 6079225 which has atomizing within the tube/nozzle while a liquid is flowing in a tube/nozzle.

It is argued that it is not reasonable to characterize the small, undesired vaporous portion of the Hawtof react as being the claimed first glass component. The basis of this conclusion of 'unreasonable' appears to be that Hawtof has both a liquid substance and a vaporous substance. This is not sufficient basis to overcome the rejection because the claim is comprising in nature and thus is open to having other components. It is clear that the present invention is open to having more than two components (specification, page 3, lines 4-5 "at least two different components"). Applicant has one gaseous component and one liquid component (page 3, lines 30-31 and 35-36). Hawtof's vaporous "small portion" is the first glass component which

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consists of a gaseous or vaporous substance. The atomized liquid is another substance which is another glass component.

Applicant indicates that Hawtof's reactant is delivered as one component, not two separate components. Applicant does not explain why one must consider Hawtof's liquid-vapor combination as being a 'component'. Examiner could find no definition in the specification, prior art or dictionary which requires the mixture as being a "component" and that one cannot consider each to be a component. The fact that they are not "separate" does not appear to be very relevant. It is noted that even if Examiner could fabricate some definition for "component" which would make applicant's arguments valid, such would not seem very proper, because it would make it very easy for one to avoid infringement – merely by copying applicant's invention, but use some carrier gas mixed with the vaporous component.

It is further argued that claim 37 now requires that the vicinity at which the second glass component is atomized is downstream of the nozzle, and that Takahashi does not teach or suggest this. The plain reading of the limitation is that "downstream of the nozzle" modifies "flame". To the degree that it is supposed to modify "the vicinity": this is a misplaced modifier. Also, applicant merely asserts that Takahashi does not have the atomizing downstream of the nozzle – but gives no explanation why. Given the broadest reasonable interpretation of "downstream" it is clear that Takahashi's ~~nebulizer~~ ^{nebulizer} is downstream of the nozzle. However, as indicated above, most of this appears to be moot, since the downstream limitation is not supported by the as-filed application.

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the prior art teaches it

As to the argument that [^]it is more desirable to have a liquid reactant free of a vaporous portion: Examiner can see nothing which indicates that having the reactant vapor free is desirable. To examiner, it would seem that it suggests that having some vapor is preferable – because it would probably require extraordinary effort to eliminate the vapor. Nevertheless, even if it were more desirable, such is not very relevant:

From MPEP 2145:

A prior art reference that "teaches away" from the claimed invention is a significant factor to be considered in determining obviousness; however, "the nature of the teaching is highly relevant and must be weighed in substance. A known or obvious composition does not become patentable simply because it has been described as somewhat inferior to some other product for the same use." In re Gurley, 27 F.3d 551, 554, 31 USPQ2d 1130, 1132 (Fed. Cir. 1994) (Claims were directed to an epoxy resin based printed circuit material. A prior art reference disclosed a polyester-imide resin based printed circuit material, and taught that although epoxy resin based materials have acceptable stability and some degree of flexibility, they are inferior to polyester-imide resin based materials. The court held the claims would have been obvious over the prior art because the reference taught epoxy resin based material was useful for applicant's purpose, applicant did not distinguish the claimed epoxy from the prior art epoxy, and applicant asserted no discovery beyond what was known to the art.)

As to the assertion that the Hawtof process is such that it is "impossible to find a workable temperature for the process". Hawtof is a valid US patent and therefore presumed to be fully enabled. Applicant's assertion that it is "impossible" is insufficient. Evidence is required.

The MPEP sets forth what must be considered to establish whether the enablement requirement is met.

2164.01(a) Undue Experimentation Factors

There are many factors to be considered when determining whether there is sufficient evidence to support a determination that a disclosure does not satisfy the enablement

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requirement and whether any necessary experimentation is "undue." These factors include, but are not limited to:

- (A) The breadth of the claims;
- (B) The nature of the invention;
- (C) The state of the prior art;
- (D) The level of one of ordinary skill;
- (E) The level of predictability in the art;
- (F) The amount of direction provided by the inventor;
- (G) The existence of working examples; and
- (H) The quantity of experimentation needed to make or use the invention based on the content of the disclosure.

~~sets~~

As to Hawtof having both the vapor portion and the liquid portion atomized: examiner does not see how the present claims preclude having both portions atomized. Furthermore, only liquids can be atomized – vapors cannot be atomized. Examiner sees nothing in Hawtof which suggests a vapor is atomized.

Regarding Ainslie, Applicant makes various assertions as to what Ainslie does and does not teach. Applicant points out how Ainslie would fail to provide particular teachings that would be relevant for particular combinations. However such combinations are largely irrelevant, because the prior art rejections are not based on those combinations. Rather, the rejections are based on particular combinations based on particular motivations (see rejections). Applicant does not address the particular combination/motivations used in the rejections – no error is pointed out. Thus it is deemed that applicant agrees with the Office's combination/motivation and statements regarding what would have been obvious.

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Regarding a 1.132 declaration, applicant argues that Examiner is aware of unexpected results. In the response to the declaration, Examiner ^{Pointed}points out why it fails to show non-obviousness.

Applicant argues Hawtof's and Randall's reactants behave quite differently. The relevance of this is not explained or understood. The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981). Applicant does not dispute any of the facts or conclusions (except for the ultimate conclusion of obviousness) regarding Randall in the rejection – thus it is deemed that Applicant agrees with all of the facts and conclusions as set forth in the rejection.

Regarding claim 44, it is argued that Hawtof does not disclose delivering the two components through separate tubes. This is largely irrelevant because the rejection is not based on Hawtof alone – nor does it rely on a requirement that Hawtof teaches such. See the rejection as to how the claim limitations are met.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir.

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1986). Thus it does not matter that Ainslie mention anything to lead one to believe that metals could be used in applicant's invention.

It is argued that Examiner has asserted that there is no requirement that the aqueous solution be delivered through the same nozzle. Examiner has not made such an assertion.

As to the assertion that there is no motivation in the references to combine the disclosure of Takahashi, Randall, Hawtof and Ainslie – the relevance of this is not understood. The rejection sets forth all of the facts and requisite motivations. Obviousness can be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Hoffmann whose telephone number is (571) 272 1191. The examiner can normally be reached on Monday through Friday, 7:00- 3:30.

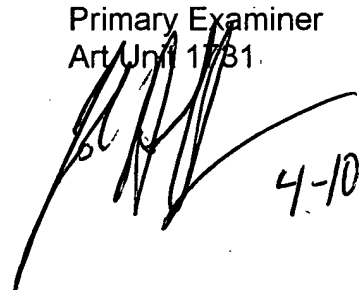
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

John Hoffmann
Primary Examiner
Art Unit 1731

jmh



4-10-07